UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,897	04/27/2005	Sigfrid Strassler	ECPO-20	9337

52450 7590 01/05/2010

KRIEG DEVAULT LLP
ONE INDIANA SQUARE
SUITE 2800
INDIANAPOLIS, IN 46204-2079

EXAMINER	
TOTH, KAREN E	

ART UNIT	PAPER NUMBER
3735	

MAIL DATE	DELIVERY MODE
01/05/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,897	STRASSLER ET AL.	
	Examiner	Art Unit	
	KAREN E. TOTH	3735	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 September 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *24 and 26-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24,26-31,33 and 34* is/are rejected.

7)☒ Claim(s) *32, 35-46* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

2. Claims 24 and 36 are objected to because of the following informalities: The claims recite "determining the glucose concentration in blood". There is no antecedent basis for this. For the purposes of examination, the claims will be treated as though reading "determining a glucose concentration in blood". The claims also recite "the viscosity of the mixture"; there is no antecedent basis for this phrase, which will be treated as though reading "a viscosity of the mixture". The claims also recite "viscosity is measured on the basis of the oscillatory/rotation"; there is no antecedent basis for this phrase, which will be treated as though reading "measurement is based on an oscillatory/rotation". Appropriate correction is required.

3. Claim 29 is objected to because of the following informalities: The claim recites "one of the two ends of the bending bar". There is no antecedent basis for this limitation. For the purposes of examination, the claim will be treated as though reading "wherein the bending bar has two ends, and wherein the magnet (6) is attached to one of the two ends of the bending bar". Appropriate correction is required.

4. Claim 45 is objected to because of the following informalities: The claim recites "the decay of its rotation is determined" and "the critical rotational frequency". There is no antecedent basis for these limitations. For the purposes of examination, they will be

treated as though reading "a decay of its rotation is determined" and "a critical rotational frequency".

Claim Rejections - 35 USC § 103

5. Claims 24, 26-31, 33, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ballerstadt (US 7226414) in view of Wright (US 2003/0230136).

Regarding claims 24 and 31, Ballerstadt discloses a blood glucose concentration sensor system comprising an implantable sensor (element 12) and a user device (elements 24), where the sensor is a glucose-permeable ampoule containing a glucose-sensitive liquid and the viscosity of the combination of diffused glucose and the glucose-sensitive liquid is measured (column 3, lines 6-11; column 4, lines 51-66; column 5, lines 4-13), and where the user device is portable, is used to control the measurement and evaluation of the measurement, and is worn externally on the skin (figure 5; column 2, lines 27-36). Ballerstadt discloses using oscillatory behavior of an oscillating element excited by an oscillating magnetic field to measure the viscosity (column 6, lines 10-26; column 10, lines 4-5), but does not disclose the oscillating element being in the form of a bending bar. The Examiner notes that “bending bar” is being used throughout the application but has not been defined; since the term is not one commonly used in the art, it will be given its broadest reasonable interpretation - that being a structure that can undergo flexion. Wright teaches a system for determining the viscosity of a solution comprising a bending bar (element 2) that is excited to oscillate (paragraph [0018]) in response to a electromagnetic field (paragraph [0024]-[0025]; abstract) in order to

determine the viscosity of a solution surrounding the components. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the system of Ballerstadt with the oscillating element comprising a bending bar, as taught by Wright, since they are known structural alternatives for determination of viscosity of a solution.

Regarding claim 26, Wright further teaches using an oscillatory element excited by a magnet to create a magnetic field, where the decay behavior of the element is used to determine the solution's viscosity (abstract; paragraph [0009]), in order to generate an accurate measurement. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the system of Ballerstadt to measure the decay behavior of the oscillatory element to determine the solution's viscosity, as taught by Wright, in order to obtain an accurate measurement.

Regarding claim 27, movement of the oscillating element through the glucose and sensitive liquid would inherently cause mixing of the components – that is, homogenization.

Regarding claim 28-30, Ballerstadt in view of Wright discloses all the elements of the claimed invention, as described above, except for the oscillating element being joined to a magnet, where the magnet is joined to an end of the bending bar and generates a magnetic field. Wright further teaches a system for determining the viscosity of a solution comprising the bending bar (element 2) being joined at one end to a magnet (element 36; figure 3) which oscillates (paragraph [0018]) in response to a electromagnetic field (paragraph [0024]-[0025]; abstract) in order to determine the

viscosity of a solution surrounding the components. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the system of Ballerstadt with the oscillating element being joined to a magnet, as taught by Wright, in order to control the magnetic oscillations.

Regarding claims 33 and 34, Ballerstadt in view of Wright discloses all the elements of the claimed invention, as described above, except for the electromagnetic arrangement comprising a magnet and a coil for exciting the magnet and a microprocessor connected to the coil for sensing the generated magnetic field. Wright further teaches a magnet and coil for exciting the magnet (paragraph [0025]) and a microprocessor for sensing the excited field (paragraphs [0026]-[0029], in order to ensure accuracy of viscosity measurements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the system of Ballerstadt and Wright with an excitatory magnet and coil, and a microprocessor for measuring a generated magnetic field, as further taught by Wright, in order to ensure accuracy of viscosity measurements.

Allowable Subject Matter

6. Claim 32 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to anticipate or make obvious the invention of claim 32, including, *inter-alia*, a blood glucose concentration sensor system comprising an

implantable sensor in the form of a glucose-penetrable ampoule containing a sensitive liquid and a user device configured to be worn on a user's skin that controls measurement of the viscosity of the mixture created by the glucose and sensitive liquid and evaluation of the measurement, where the viscosity is measured by observing the oscillatory behavior of an oscillating element disposed in the implantable sensor and excited to oscillation by an oscillating magnetic field, and where the sensor also includes a plastic part disposed in the implantable sensor that confines the liquid volume, supports the oscillating element, and has an elongated bore into which an arm disposed on the magnet projects such that the liquids are mixed.

7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to anticipate or make obvious the invention of claims 35-46, including, *inter-alia*, a blood glucose concentration sensor system comprising an implantable sensor in the form of a glucose-penetrable ampoule containing a sensitive liquid and a user device configured to be worn on a user's skin that controls measurement of the viscosity of the mixture created by the glucose and sensitive liquid and evaluation of the measurement, where the viscosity is measured by observing the rotation of a measuring element disposed in the implantable sensor, where the element is driven by a driving magnet also disposed in the implantable sensor, and the rotations are analyzed based on their decay behavior after the driving magnet is turned off.

Response to Arguments

8. Applicant's arguments filed 21 September 2009 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the oscillating element being attached to a support) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Oscillation is merely vibration or movement to and fro; no characteristic of oscillation requires a fixed support.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that Wright is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was

concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Ballerstadt, Wright, and the instant application are all directed to measurement of the viscosity of a solution.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6200532 to Wu and 5547049 to Weiss, which disclose similar inventions.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAREN E. TOTH whose telephone number is (571)272-6824. The examiner can normally be reached on Mon thru Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor II can be reached on 571-272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patricia C. Mallari/
Primary Examiner, Art Unit 3735

/K. E. T./
Examiner, Art Unit 3735